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OSHA LIANG L.L.P./SUN 1221 MCKINNEY, SUITE 2800 HOUSTON, TX 77010			EXAMINER DIVECHA, KAMAL B	
			ART UNIT	PAPER NUMBER
			2151	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/26/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/046,117

Applicant(s)

YARED ET AL.

Examiner

KAMAL B. DIVECHA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 12,15-21 and 24-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12,15-21 and 24-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

Claims 12, 15-21 and 24-33 are pending in this application.

**Response to Arguments**

Applicant's arguments filed November 29, 2006 have been fully considered but they are not persuasive.

In response filed, applicant argues in substance that:

- a. Rejections under 35 U.S.C. 112, first paragraph is improper (Remarks, pg. 2-3).

In response to argument [a], Examiner respectfully disagrees.

In response filed, applicant alleges “with respect to terms: “non-cast object graph”, and “non-cast root object”, the aforementioned terms are used to convey that the object graph (which includes the root object) is initially not cast (i.e. casting rules have not been applied to the object graph). Said another way, the term non-cast, for the purposes of the claims, is synonymous with “original” or “unmodified”. Moreover, through numerous examples, the specification clearly discusses, in enabling detail, that a client includes a non-cast (i.e. original) object graph (see fig. 2, fig. 5, [0031-0034] of specification”.

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Figure 2, Figure 5 and paragraph [0031-0034] are reproduced herein:

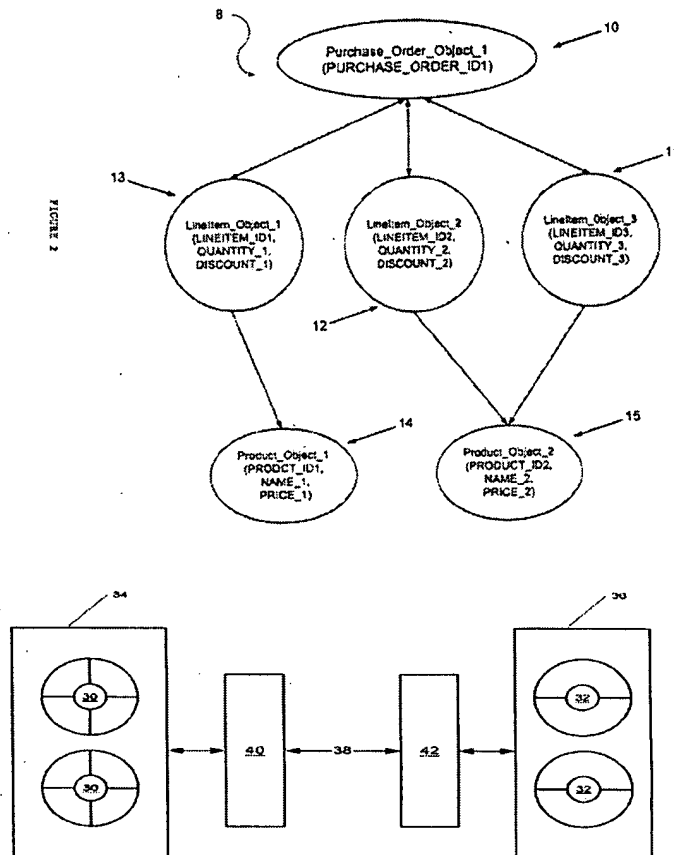


Figure 5

[0031] Figure 5 shows one embodiment of a transport packager in a client-server environment. The environment includes client-side distributed objects 30 and server-side distributed objects 32 separated across a client 34 and a server 36, respectively. The client 34 and server 36 run on separate machines and communicate via a network link 38. Further, the client 34 includes a client-side transport packager 40, and the server 36 includes a server-side transport packager 42.

[0032] Figure 6 shows a flow chart for one embodiment of the present invention operating in a distributed environment, as shown in Figure 5. A client-side object 30 sends a request to invoke a remote method on a server 36 (Step 200). The request is intercepted by a client-side transport packager 40 (Step 202). The client-side transport packager 40 obtains a VUS from the client 34 (Step 204). The client-side transport packager 40, based on the VUS, retrieves a root object, casting rules, and related class definitions (Step 206). The client-side transport packager 40 generates an internal representation (not shown) using the VUS, casting rules, class definitions, and the root object (Step 208).

[0033] The internal representation is then sent to a server-side transport packager 42 (Step 210). The server-side transport packager 42 instantiates a cast object graph from the internal representation (Step 212). Business logic is applied to the cast object graph (Step 214), where business logic includes methods for manipulating the object graph and contents of the object graph. Results of applying business logic are packaged and sent back to the client 34 (Step 216).

[0034] Advantages of the invention may include one or more of the following. The dynamic casting enables instances of particular classes to be automatically

converted into similar classes with similar members. This is particularly useful when transporting objects between a client and a server where the implementations are in fact completely different, but the objects share a common interface or simply share common members. The dynamic casting enables complex objects to be cast without defining explicit cast conversions in the class source code. The flexible nature of the dynamic casting provides programmers numerous options to implement dynamic casting of objects. Further, the invention allows individual tiers in a multi-tier system to be migrated separately. Further, the invention allows objects to be cast in a transparent fashion, *i.e.*, the objects to be cast do not know about the casting rules and the objects do not need to be modified to work with the invention. Those skilled in the art can appreciate that the present invention may include other advantages and features.

There is neither a disclosure, teachings or suggestion that conveys that a cast-object graph is obtained from a non-cast object graph or original object graph. In fact, applicant's disclosure fails to disclose the "non-cast object graph" or "original object graph" and further fails to disclose a client comprising a non-cast object graph.

It is possible that the object graph from which the cast object graph is obtained is indeed a cast object graph of some other object graph and/or the object graph from which the cast object graph is obtained is indeed an instance of some other object.

Moreover, the 35 U.S.C. 112, first paragraph states: (See MPEP § 2163)

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

What is well known in the art, in this case, in the field of object-oriented computing environment or computer science, can not be made the basis for providing an enabling disclosure and/or a written description requirement. The statute above expressly states that the specification shall contain a written description of the invention, in such full, clear, concise and exact terms as to enable any person skilled in the art.

In the present application, the specification fails to contain a written description of the invention, in full, clear, concise and exact terms. More specifically, the specification fails to teach the fact wherein "the client comprises a non-cast or original object graph, wherein the non-cast object graph comprises non-cast root objects and plurality of non-cast objects...a server configured to instantiate a cast object graph using the internal representation.

Well known subject matter, Inherent subject matter, and logical thinking does not provide a basis for a written description requirement (See MPEP § 2163).

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For the at least these reasons, applicant's traversal is considered not fully persuasive.

- b. Rejections under 35 U.S.C. 112, second paragraph is improper (Remarks, pg. 4-5).

In response, Examiner respectfully disagrees.

First, Examiner is well aware of the patent law where an applicant is entitled to use his or her own lexicographer and may rebut the presumption that claim terms are to be given their ordinary and customary meaning by clearly setting forth a definition of the term and that is different from its ordinary and customary meaning (See MPEP § 2106).

Applicant further alleges that "in this case, the applicant has defined the term "cast" to mean modification of the name of an object in accordance with a casting rule", and refers to specification, table 2 and para. [0026]).

The specification, table 2 and [0026] are reproduced herein:

---

Casting\_method.suffix ( [Purchase\_Order\_Object\_1,  
Line\_Item\_Object\_1,  
Line\_Item\_Object\_2,  
Line\_Item\_Object\_3,  
Product\_Object\_2] )

---

[0026] Figure 4 illustrates an exemplary cast object graph in accordance with one embodiment of the invention that would result from applying the VUS in Table 1, and the casting rules in Table 2 to the object graph illustrated in Figure 2. Each object within the cast object graph 8' is appended with a "\_PROXY" suffix. For example, Purchase\_Order\_Object\_1 is cast to Purchase\_Order\_Object\_1\_PROXY.

The specification fails to "define" the term "cast" or "casting" in its context. A mere list of examples is not considered the "definition".

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Table 2 merely shows the casting rule without any definition and/or description of how the table is actually utilized.

As indicated in the previous office action, the term “casting” is defined as the process of forcing a conversion from one type to another (office action dated 8/29/06, pg. 6). The term and the definition is well known in the field of computer science as evidenced by Core, Java, Vol. I, pg. 156-157).

However, applicant disagrees with the Examiner’s reasonable interpretation that is based on the well-known subject matter in the field of computer science.

Examiner is confused as to what actually applicant is intending to convey and disclose because on one hand, applicant explicitly relies on the well known subject matter and knowledge available in the field of computer science (See remarks, pg. 3, wherein applicant expressly relies on knowledge available in the field of computer science to provide description of terms such as instantiation, object instantiation, etc.) and, on the other hand, applicant disagrees with the interpretation of the term “cast”, “casting”, etc., which is based on the knowledge available to one skilled in the art from a field of computer science and/or object-oriented computer programming.

Applicant is advised to disclose what is meant by casting in the context of the claim in view of applicant’s specification.

Therefore, for the at least these reasons, the rejection is deemed proper.



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c. Ludwig is complete silent with respect to creating an internal representation of a cast object graph using a variable usage specification (VUS), a casting rule, and a non-cast root object (remarks, pg. 5, pg. 7).

In response to argument [c], Examiner respectfully disagrees.

Claim 25 recites:

A system, comprising:  
a client, operatively connected to a server, comprising a non-cast object graph, wherein the non-cast object graph comprises a non-cast root object and a plurality of non-cast objects and wherein the client is configured to issue a request to invoke a remote method the server; and  
a client-side transport packager located on the client configured to:  
intercept the request,  
create, in response to the request, an internal representation using a variable usage specification, a casting rule, and the non-cast root object, wherein the variable usage specification lists a first subset of the plurality of non-cast objects,  
forward the internal representation to the server, and  
receive a response to the request from the server,  
wherein the server comprises a server-side transport packager configured to instantiate a cast object graph using the internal representation and generate a response the request using the cast object graph,  
wherein the cast object graph comprises a plurality of cast objects,  
wherein each of the plurality of cast objects references at least another one of the plurality of cast objects,  
wherein an original name associated with each of the plurality of non-cast objects is modified in accordance with the casting rule,  
wherein the casting rule defines how to modify the original name associated with each of the plurality of non-cast objects, and  
wherein each of the plurality of cast objects is configured to store at least one of the plurality of attributes.

Where in the context of the claim is the limitation “creating an internal representation of a cast object graph” using a VUS, a casting rule, and a non-cast root object” disclosed?

Please note that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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For the at least this reason, applicant argument directed towards the distinction between the prior art and the claimed invention, based on the feature above, is considered not persuasive.

d. There is no disclosure of a VUS, which lists a first subset of the plurality of non-cast objects or suing such a VUS to create an internal representation of a cast object graph (remarks, pg. 5, pg. 7).

In response to argument [d], Examiner respectfully disagrees.

The “Variable Usage specification” (VUS) is simply a list of subset of plurality of non-cast objects (See applicant’s specification, pg. 7 [0024], table 1 in conjunction with fig. 2).

Ludwig, at column 10 line 59, teaches the process of packaging the information by translating into a representation for each of the possible types of remote invocation calls.

Ludwig, at column 11 lines 20-21, teaches the process wherein hierarchical information (an object graph) from the item list is flattened into a linear byte stream.

Ludwig, at column 11 lines 22-40, teaches the process wherein the client side transport packager creates and instantiates a transport object.

Ludwig, at column 14 line 65 to column 15 line 3, teaches the process wherein the remote proxy object inherits from NonVisualObject (NVO).

Ludwig, at column 17 line 18-41, teaches the process of remote instantiation.

Ludwig, at column 37 line 49 to column 38 line 46, claims the system wherein plurality of data members and its parameters are packed into a byte stream for transport.

From all these teachings, it logically and expressly flows that Ludwig does disclose the Variable specification usage, which is nothing more than an object graph comprising plurality of objects.

In addition to teachings above, Ludwig, throughout the specification, discloses instantiating an object and/or instantiation (col. 10 L20 to col. 11 L40).

And, in response filed, applicant acknowledged that instantiation and object instantiation is well known in the field of computer science. Specifically, instantiating an object includes producing the particular object from a template (e.g. an internal representation). Producing the object involves allocation of a structure with the types specified by the template, and initialization of instance variables associated with the object using either default values or those provided by a constructor function (See remarks, page 3).

Based on the teachings of the well-known subject matter, it would be reasonable to one of ordinary skilled in the art, to conclude that Ludwig does disclose producing the particular object, i.e. cast object graph, from a template (e.g. an internal representation), simply because Ludwig discloses object instantiation.

For the at least these reasons, applicant's argument is considered not persuasive.

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e. Moreover, there is no disclosure of a casting rule as recited in independent claim 25. Specifically, Ludwig, as discussed above, only discloses the ability to specify a name of a proxy. Clearly, the mere ability to specify the name of a proxy is not equivalent to a casting rule that defines how to modify the original names a number of non-cast objects (Remarks, pg. 6, pg. 7).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., casting rule that defines how to modify the original names a number of non-cast objects) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

f. Mylynarczyk is not valid prior art to this application as evidenced by the attached declaration under 37 C.F.R. 1.131 (Remarks, pg. 6-8).

In response to argument [f], Examiner respectfully disagrees in view of followings:

The affidavit filed November 29, 2006 is ineffective to overcome the rejection of record.

Applicant attempts to establish prior invention by showing conception of the invention prior to October 2000 coupled with diligence from before that date up until filing of the instant application on January 11, 2002. However, applicant has failed to establish the conception and the due diligence of the claimed invention.

**SUBSTANCE of 37 CFR 1.131:**

**General Considerations:**

A general allegation that the invention was completed prior to the date of the reference is not sufficient. Ex parte Saunders, 1883 C.D. 23, 23 O.G. 1224 (Comm'r Pat. 1883).

Similarly, a declaration by the inventor to the effect that his or her invention was conceived or reduced to practice prior to the reference date, without a statement of facts demonstrating the correctness of this conclusion, is insufficient to satisfy 37 CFR 1.131.

The affidavit or declaration and exhibits must clearly explain which facts or data applicant is relying on to show completion of his or her invention prior to the particular date. Vague and general statements in broad terms about what the exhibits describe along with a general assertion that the exhibits describe a reduction to practice “amounts essentially to mere pleading, unsupported by proof or a showing of facts” and, thus, does not satisfy the requirements of 37 CFR 1.131(b). In re Borkowski, 505 F.2d 713, 184 USPQ 29 (CCPA 1974). Applicant must give a clear explanation of the exhibits pointing out exactly what facts are established and relied on by applicant. 505 F.2d at 718-19, 184 USPQ at 33. See also In re Harry, 333 F.2d 920, 142 USPQ 164 (CCPA 1964) (See MPEP 715.07).

**Conception:**

As the sole evidence of conception prior to October 2000, Applicants states in paragraph 2 of the affidavit:

“We...conceived the claimed invention prior to at least October, 2000, as evidenced by: (i) an Invention Disclosure e-mailed to us on May 3, 2001, in which we were listed as inventors and (ii) the printout of a web page entitled “Transport Packager” referenced by the invention disclosure (See Invention Disclosure, p. 3). The content of the web page created on or before October 10, 2000 as evidenced by the “Last Modified”

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information (see printout, p. 4) and the printout was generated on May 10, 2001 (see printout, p.1)...”

The statement made by applicants representative and the applicants are general assertion that the Exhibit supports conception and as such amounts to “mere pleading”. Applicant has not provided a clear explanation of the exhibits pointing out how the exhibits establish conception of the claimed invention.

(i) The Invention disclosure forms does not provide any support for the claimed invention. A form with the inventors name on it does not satisfy the requirements of 37 CFR 1.131 (See Tab 1). Furthermore, applicant’s hs failed to show how the Invention Disclosure forms reads onto the claimed Invention.

(ii) The printout of a web page entitled Transport Packager fails to support the claimed invention. In the printout, the Transport packager enables a prorgammer to specify what classes to cast into different classes and creating the original object as an object of a new class, whereas, the claimed invention discloses obtaining a cast-object graph from an original object graph.

Therefore applicant has not met the burden of establishing prior conception.

### **Due Diligence**

As the sole evidence of conception prior to october 2000, Applicants states in paragraph 3 of the affidavit:

“We...diligently worked on the reduction to practice of the invention from, at least the date established by the web page until, at least, the date of constructive reduction to practice established by filing of U. S Patent Application 10/046,117, failed on January 11, 2002...”

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With respect to due diligence, the Examiner notes that there is not specificity as to the dates and acts.

For example: Applicant declares that the Claimed Invention was indeed conceived on or before October 10, 2000.

From the date the Invention was conceived, applicant took 7 months in order to start the process of achieving the actual reduction to practice, as indicated by the correspondence and attorney documentation and then the representative took another 9 months to diligently work on reduction to practice.

There is simply no specificity as to the dates since October 10, 2000 up until the date when the application was actually filed with U. S. Patent Office, on January 1, 2002.

Therefore, applicant has failed to establish the due diligence as required by 37 CFR 1.131.

For at least the reasons cited above the affidavit is ineffective to antedate the reference.

**Specification**

The specification is objected to under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The test to be applied under the written description portion of 35 U.S.C. § 112, first paragraph, is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of later claimed subject matter. Vas-Cat, Inc. v. Mahurkar, 935 F. 2d 1555, 1565, 19 USPQ2d 111, 1118 (Fed. Cir. 1991), reh'rg denied (Fed. Cir. July 8, 1991) and reh'rg, en banc, denied (Fed. Cir. July 29, 1991).

The applicants have failed to provide an enabling disclosure in the detailed description of the embodiment. The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to support the subject matter set forth in these claims, i.e. lack of written description. See MPEP § 2163.

The claims recite "...non-cast object graph...non-cast root object...", however there is no teaching or suggestion in the originally filed specification of the fact wherein a client comprises a non-cast object graph, wherein the non-cast object graph comprises non-cast root objects and plurality of non-cast objects...a server configured to instantiate a cast object graph using the internal representation.

Hence, the above claimed limitation presents a situation that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, has possession of the claimed invention.



**Claim Rejections - 35 USC § 112**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 12, 15-21, 24-33 are rejected under 35 U.S.C. 112, first paragraph, for the same reasons as set forth in the specification above.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 12, 15-21 and 24-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite terms such as “cast”, “casting”, “non-cast” in the claims.

From a computer science perspective and/or object-oriented programming perspective, “casting is well known and defined as the process of forcing a conversion from one type to another (see Core, Java 2, Vol. I, pages 156-157).

However, there is no description of any conversion in the specification. Examiner is unsure if the applicant is referring to conversion from one type to another or renaming an object to avoid confusions with the remote objects, for example `Purchase_Order_Object_1` is cast to `Purchase_Order_Object_1_Proxy` on page 8 of specification.

In the response, the applicant must clearly and distinctly claim the subject matter which applicant regards as invention, in this case, clarify the term “cast”, “cast objects” and “non-cast” objects.

Therefore, for examining purposes, the terms “non-cast objects” and “cast-objects” will simply be interpreted as “objects” because applicant failed to provide a reasonable interpretation of the term “cast”.

Also, for examining purposes, “casting” will be interpreted as the process of assigning names to the local or remote objects as described by the specification above.

Please note, the interpretation of terms “cast”, non-cast objects” etc, is not limited to the above-mentioned interpretation, it can be interpreted in many other ways.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 25, 26, 32, 33 are rejected under 35 U.S.C. 102(b) as anticipated by Ludwig et al. (hereinafter Ludwig, U. S. Patent No. 6,006,230).

As per claim 25, Ludwig discloses a system, comprising:

- a client, operatively connected to a server (fig. 2 item #210, 230), comprising a non-cast object graph, wherein the non-cast object graph comprises a non-cast root object and a plurality of non-cast objects and wherein the client is configured to issue a request to invoke a remote method the server (col. 3 L15 to col. 4 L37); and

- a client-side transport packager located on the client configured to (fig. 5):

- Intercept the request (col. 10 L40-67),

- create, in response to the request, an internal representation using a variable usage specification, a casting rule, and the non-cast root object, wherein the variable usage specification lists a first subset of the plurality of non-cast objects, forward the internal representation to the server (col. 10 L20 to col. 11 L21, col. 17 L18-41 and col. 19 L1 to col. 21 L54: a code for invocation of remote methods, col. 37 L48 to col. 39 L43), and

- receive a response to the request from the server (col. 37 L48 to col. 38 L6),

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- wherein the server comprises a server-side transport packager configured to instantiate a cast object graph using the internal representation and generate a response the request using the cast object graph (fig. 2 item #260, fig. 6, col. 3 L57 to col. 4 L2, col. 37 L48 to col. 38 L30)
- wherein the cast object graph comprises a plurality of cast objects (col. 37 L48 to col. 38 L30,
- wherein each of the plurality of cast objects references at least another one of the plurality of cast objects (col. 9 L55 to col. 10 L18, an application program created through a remote call comprises plurality of objects referencing each other in order to provide an application),
- wherein an original name associated with each of the plurality of non-cast objects is modified in accordance with the casting rule (col. 3 L18-37),
- wherein the casting rule defines how to modify the original name associated with each of the plurality of non-cast objects (col. 3 L18-37), and
- wherein each of the plurality of cast objects is configured to store at least one of the plurality of attributes (col. 9 L55 to col. 10 L18: an application program includes plurality of objects and its attributes),

As per claim 26, Ludwig discloses the system wherein creating the internal representation further comprises using a class definition, wherein the class definition corresponds to a template describing methods and at least one selected from the group consisting of variables and constants for one of the plurality of non-cast objects (col. 37 L48 to col. 38 L46 and col. 19 L1 to col. 21 L64).

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As per claim 32, Ludwig discloses the system as above, wherein the internal representation is a serialized file (col. 38 L44-46).

As per claim 33, Ludwig discloses the system as above, wherein each of the first subset of the plurality of non-cast objects in the variable usage specification is defined using a path, wherein the path specifies all non-cast objects in the non-cast object graph between the non-cast root object and the one of the first subset of the plurality of non-cast object (col. 37 L48 to col. 38 L43: hierarchy and nested data members includes paths).

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12, 15-18, 20 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mlynarczyk et al. (hereinafter Mlynarczyk, US Publication 2002/0029375) in view of Acker et al. (hereinafter Acker, US 6,141,792).

As per claim 12, Mlynarczyk discloses distributed computer system, comprising:

a client comprising a non-cast object graph, wherein the non-cast object graph comprises a non-cast root object and a plurality of non-cast objects (Abstract, fig. 1, fig. 2: shows the hierarchy including objects);

a server operatively connected to the client (Abstract, fig. 3-4 ref. S);

a client-side transport packager located on the client configured to (Abstract, Fig. 1):

create an internal representation using a variable usage specification, a casting rule and the non-cast root object, wherein the variable usage specification lists a first subset of the plurality of non-cast objects (fig. 1, fig. 2, pg. 1 [0002-0007], [0015-0021], pg. 2 [0031-0033], [0039] & [0043] and Fig. 4; wherein the local system is creating or replicating the same inheritance hierarchy as in the server S. Smart PA and Smart PB are internally representing interface A and interface B on the server where the interfaces are inheriting base class or root class represented by the RMI block), and

forward the internal representation to the server-side transport packager (see fig. 3-4, pg. 1 [0026-0027], pg. 2 [0031]);

a server-side transport packager located on the server configured to instantiate a cast object graph using the internal representation (Abstract, fig. 3-4, pg. 1 [0027], [0040]; wherein the casting rule is the encapsulation of the references to the remote objects in the naming system where the references maps to the local SmartProxy A and SmartProxy B classes);

wherein the cast object graph comprises a plurality of cast objects (pg. 1 [0015-0020]: horizontal casting is the operation of casting x on z in Y: obviously the end graph includes more than one objects),

wherein each of the plurality of cast objects references at least another one of the plurality of cast objects (pg. 2 [0039-0040]).

Mlynarczyk however, does not explicitly teach the process wherein an original name associated with at least one of the plurality of non-cast objects is modified in accordance with the casting rule, and wherein the casting rule defines how to modify the original name associated with the at least one of the plurality of non-cast objects.

Acker teaches a variable usage specification used to transport necessary object attributes (col.5, lines 47-52), wherein the cast object graph comprises a plurality of objects (Fig.3-12, col.5, lines 40-50), wherein each of the plurality of objects references at least another one of the plurality of objects (Figs.3-12, col.4, lines 57-67, col.5, lines 40-50), wherein a original name associated with each of the plurality of objects is modified in accordance with the casting rule (Figs.3-12, col.4, lines 57-67, col.5, line 40-col.6, line 16), and wherein the casting rule defines

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how to modify the original name associated with each of the plurality objects (Figs.3-12, col.4, lines 57-67, col.5, line 40-col.6, line 16).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Mlynarczyk to explicitly teach the use of cast object graph and the use of casting rules as taught by Acker in order to efficiently develop and customize software and to encapsulate data and function of objects (Acker, col.1, lines 15-25).

One ordinary skill in the art at the time of the invention would have been motivated to combine the teachings of Mlynarczyk and Acker in order to provide a system to build packaging and manipulating object oriented programs (Acker, col.1, lines 53-56).

As per claim 15, Mlynarczyk teaches the process wherein creating the internal representation further comprises using class definitions, wherein the class definition corresponds to a template describing methods and at least one selected from the group consisting of variables and constants for one of the plurality of non-cast objects.(fig. 1-2, pg. 1 [0002], [0010-0011], pg. 2 [0042], [0033]; wherein when the creation of objects are initiated, the system has to reference the class definition to create and instantiate the object which has internal representation).

As per claim 16, Mlynarczyk teaches the process wherein the class definition is generated at runtime by a transport packager (paragraph [0039]; wherein when the system is replicating the same inheritance hierarchy at runtime in RMI, the class definition has to be used in order for the system to define the features of the objects).

As per claim 17, Mlynarczyk teaches the process wherein the casting rule comprises a casting method (paragraph [0040]; wherein the casting rule is the encapsulation of the references



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to the remote objects in the naming system where the references maps to the local SmartProxy A and SmartProxy B classes).

As per claim 18, Mlynarczyk teaches the process wherein the casting method implements a mapping method, wherein the mapping method comprises mapping the original name of the one of the plurality of non-cast objects to a new predetermined name. (paragraph [0040]; wherein the casting rule is the encapsulation of the references to the remote objects in the naming system where the references maps to the local SmartProxy A and SmartProxy B classes, pg. 1 [0015-0020]).

As per claim 20, the distributed computer system wherein the cast method implements a parser method, wherein the parser method comprises replacing the original name of one of the plurality of non-case objects with a name corresponding to a super class of a class to which the one of the plurality of non-case objects belongs (Acker, col.6, lines 1-5). Motivation to combine set forth in claim 12.

As per claim 24, Mlynarczyk discloses the system wherein each of the first subset of the plurality of non-cast objects in the variable usage specification is defined using a path, wherein the path specifies all non-cast objects in the non-cast object graph between the non-cast root object and the one of the first subset of the plurality of non-cast object (fig. 1-2: hierarchy of objects that includes parents child relationship are defined using the path).

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5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Publication 2002/0029375 issued to Mlynarczyk et al.(Mlynarczyk) in view of US 6,141,792 issued to Acker et al.(Acker) in further view of US Patent 4,853,843 issued to Ecklund.

As per claim 19 Mlynarczyk in view of Acker teaches all the limitations of claims 17 however, fails to explicitly teach the casting method implements a suffix method.

Ecklund, from the same field of endeavor teaches a method of adding a suffix to make an object name unique (col. 19 lines 4-10 and col. 40 lines 1-2).

Therefore it would be obvious to one of ordinary skill in the art at the time the invention was made to modify Mlynarczyk in view of Acker to add a suffix to make an object name unique as taught by Ecklund in order for resolving name conflicts among objects (col. 40 lines 1-5 Ecklund).

One would have been motivated to combine the teachings of Mlynarczyk, Acker, and Ecklund to provide a system to resolve name conflicts among objects (Ecklund, col.40, lines 1-5).

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6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Publication 2002/0029375 issued to Mlynarczyk et al.(Mlynarczyk) in view of US 6,141,792 issued to Acker et al.(Acker) in further view of US Patent 6,125,400 issued to Cohen et al.(Cohen).

As per claim 21, Mlynarczyk in view of Acker fails to explicitly teach the internal representation is a serialized file.

Cohen teaches serializing an object with internal representation before transporting to the remote site(col. 2 lines 32-50).

It would be obvious to one of ordinary skill in the art at the time of the invention to combine Mlynarczyk in view of Acker to use serializing an object with internal representation before transporting to the remote site as taught by Cohen in order to reduce the amount of information sent to invoke a remote application (Cohen, col. 2 lines 5-10).

One ordinary skill in the art would have been motivated to combine the teachings of Mlynarczyk, Acker, and Cohen in order to provide a system to reduce the amount of information sent to invoke a remote application (Cohen, col. 2 lines 5-10).

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7. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al. (hereinafter Ludwig, U. S. Patent No. 6,006,230) in view of Applicant Admitted Prior Art (AAPA).

As per claim 27, Ludwig does not teach the process of using one reflection and introspection for generating a class definition at runtime.

Applicant, explicitly admitted that Java provides two mechanisms, called reflection and introspection for discovering class definitions at runtime (specification, page 6, i.e. these mechanisms are well known in Java object oriented programming language).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Ludwig in view of AAPA, in order to discover class definitions at runtime.

One of ordinary skilled in the art would have been motivated because it would have discovered the class definitions at runtime (AAPA, page 6).

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8. Claims 28, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al. (hereinafter Ludwig, U. S. Patent No. 6,006,230) in view of Mlynarczyk et al. (hereinafter Mlynarczyk, US Publication 2002/0029375).

As per claim 28, Ludwig does not disclose a system wherein the casting rule comprises a casting method.

Mlynarczyk, from the same field of endeavor discloses a casting method (paragraph [0040]; wherein the casting rule is the encapsulation of the references to the remote objects in the naming system where the references maps to the local SmartProxy A and SmartProxy B classes).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Ludwig in view of Mynarczyk in order to provide a casting method.

One of ordinary skilled in the art would have been motivated because it would have enabled a user to programmatically cast and/or provide a mechanism to differentiate the real local version of the objects from a remote version of the object (Ludwig, col. 3 L18-36).

As per claim 29, Ludwig does not disclose the system wherein the casting method implements a mapping method and wherein the mapping method comprises mapping the original name of one the plurality of non-cast objects to a new pre-determined name (not that Ludwig does teach assigning proxy names or alias to objects).

Mlynarczyk, from the same field of endeavor discloses the casting method implementing a mapping method, wherein the mapping method comprises mapping the original name of the one of the plurality of non-cast objects to a new predetermined name (paragraph [0040]; wherein the casting rule is the encapsulation of the references to the remote objects in the naming

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system where the references maps to the local SmartProxy A and SmartProxy B classes, pg. 1 [0015-0020]).

Therefore it would have been obvious to a person of ordinary skilled in the art at the time the invention was made to modify Ludwig in view of Mlynarczyk in order to map the original name of one of the plurality of non-cast objects to a predetermined name.

One of ordinary skilled in the art would have been motivated because of the same reasons as set forth in claim 28.

As per claim 31, Ludwig discloses the process of replacing the original name of the one of the plurality of non-cast objects with a name corresponding to a super class of a class to which the one of the plurality of non-cast objects belongs (col. 3 L15 to col. 4 L37: i.e. assigning a proxy name or alias in order to differentiate the local objects from remote objects).

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9. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig et al. (hereinafter Ludwig, U. S. Patent No. 6,006,230) in view of Mlynarczyk et al. (hereinafter Mlynarczyk, US Publication 2002/0029375), and further in view of Ecklund (U. S. Patent No. 4,853,843).

As per claim 30, Ludwig in view of Mlynarczyk discloses all the limitations as in claim 28, as set forth above, however, Ludwig fails to explicitly teach a suffix method, wherein the suffix method comprises appending a suffix to the original name of one of the plurality of non-cast objects.

Ecklund, from the same field of endeavor teaches a method of adding a suffix by appending a suffix to the original name to make an object name unique (col. 19 lines 4-10 and col. 40 lines 1-2).

Therefore it would be obvious to one of ordinary skill in the art at the time the invention was made to modify Ludwig and Mlynarczyk in view of Ecklund to add a suffix to make an object name unique as taught by Ecklund in order for resolving name conflicts among objects (col. 40 lines 1-5 Ecklund).

One of ordinary skilled in the art would have been motivated in order to provide a system to resolve name conflicts among objects (Ecklund, col.40, lines 1-5).

**Additional References**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Core Java 2, Vol. I, ISBN 0-13-047177-1 Chapter 4: pages 104-113, 124-132; Chapter 5: pages 145, 152, 156, 163, 183; Chapter 6: page 230; Chapter 12: page 665.
- Tuatini, Pub. No.: US 2001/0047385 A1: Heterogeneous distributed environment.
- Barnes et al., Pub. No.: US 2002/0116412 A1: System and Method for Object State Persistence.
- Burd et al., US 6,990,653 B1: Server-side code generation.

**Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,



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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

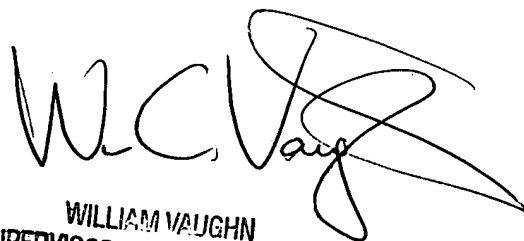
Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMAL B. DIVECHA whose telephone number is 571-272-5863. The examiner can normally be reached on Increased Flex Work Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on 571-272-3939. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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